

# (12) UK Patent Application (19) GB (11) 2 372 457 (13) A

(43) Date of A Publication 28.08.2002

(21) Application No 0124313.8

(22) Date of Filing 10.10.2001

(30) Priority Data

(31) 09766216

(32) 19.01.2001

(33) US

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(51) INT CL<sup>7</sup>

A63B 53/06

(52) UK CL (Edition T )

A6D DHC2 D23A

(56) Documents Cited

GB 2317572 A

US 5275413 A

US 4121832 A

US 3220733 A

GB 2195546 A

US 5230509 A

US 3749408 A

(58) Field of Search

UK CL (Edition T ) A6D

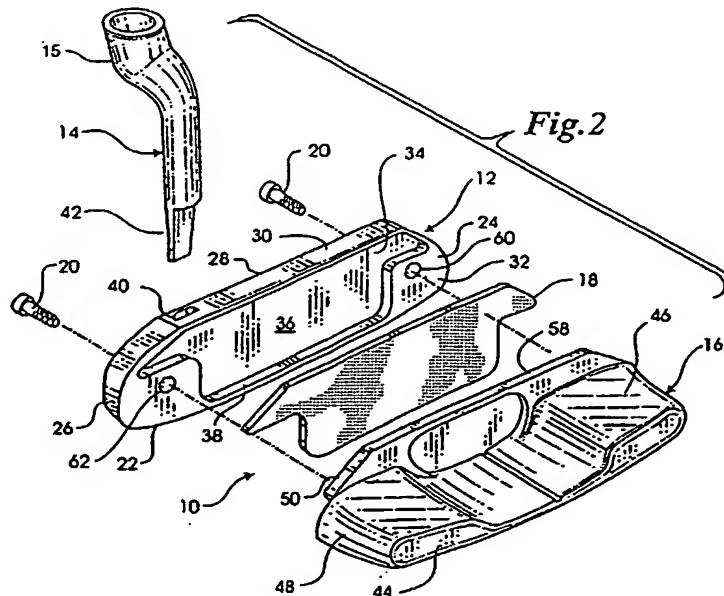
INT CL<sup>7</sup> A63B 53/00 53/04 53/06

Online:WPI,EPODOC,JAPIO

(54) Abstract Title

**Customizable golf putter head**

(57) A customizable golf putter head includes a face member 12 and a back body 16 both of which may be selected from a plurality of differently configured face members and back bodies. The face member has a cavity 38 formed in its rear surface, and the back body has a mating section 50 that is positioned within the cavity of the face member so that a parting line between the face member and the back body is concealed below a top ledge of the face member when the putter head is assembled. A hosel 14 selected from a plurality of differently configured hosels is mounted on the face member, and an elastomeric membrane 18 is positioned within the cavity of the face member so as to be interposed between the face member and the back body.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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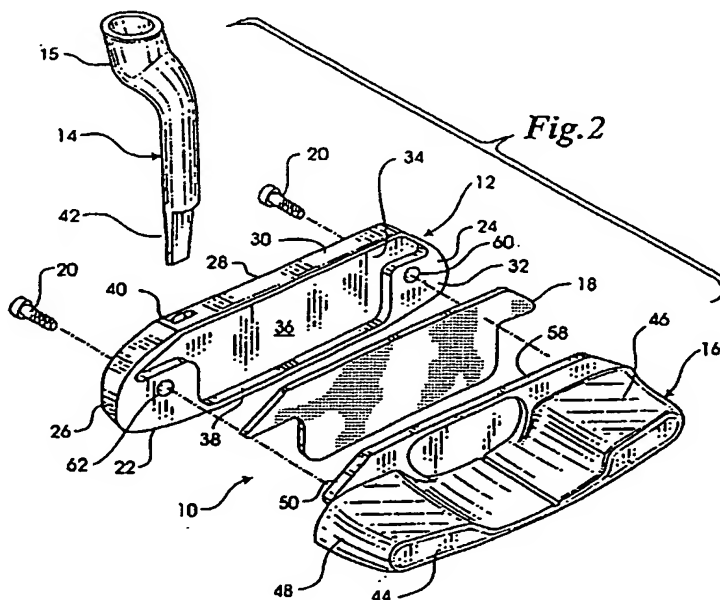
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Customizable golf putter head

(57) A customizable golf putter head includes a face member 12 and a back body 16 both of which may be selected from a plurality of differently configured face members and back bodies. The face member has a cavity 38 formed in its rear surface, and the back body has a mating section 50 that is positioned within the cavity of the face member so that a parting line between the face member and the back body is concealed below a top ledge of the face member when the putter head is assembled. A hosel 14 selected from a plurality of differently configured hosels is mounted on the face member, and an elastomeric membrane 18 is positioned within the cavity of the face member so as to be interposed between the face member and the back body.

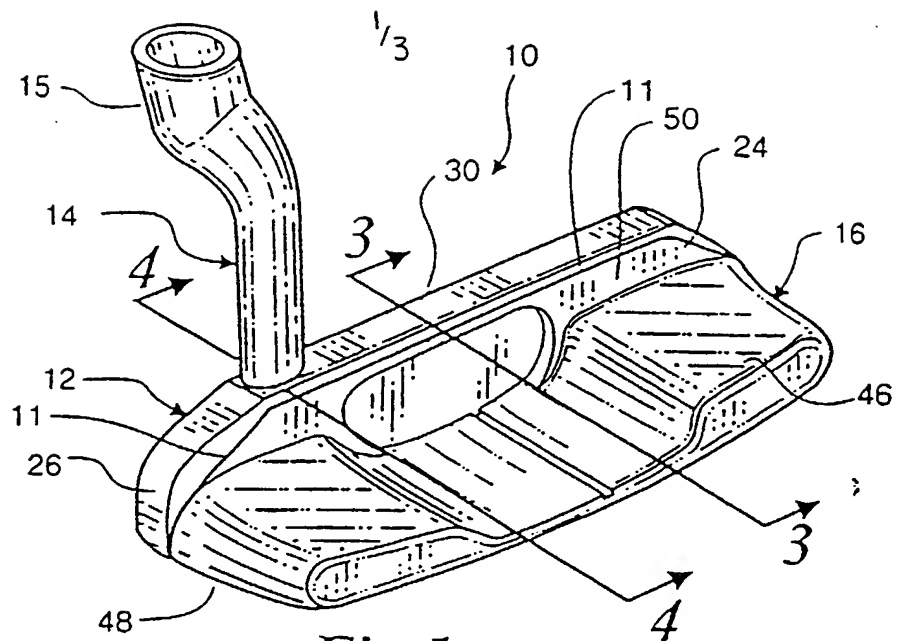


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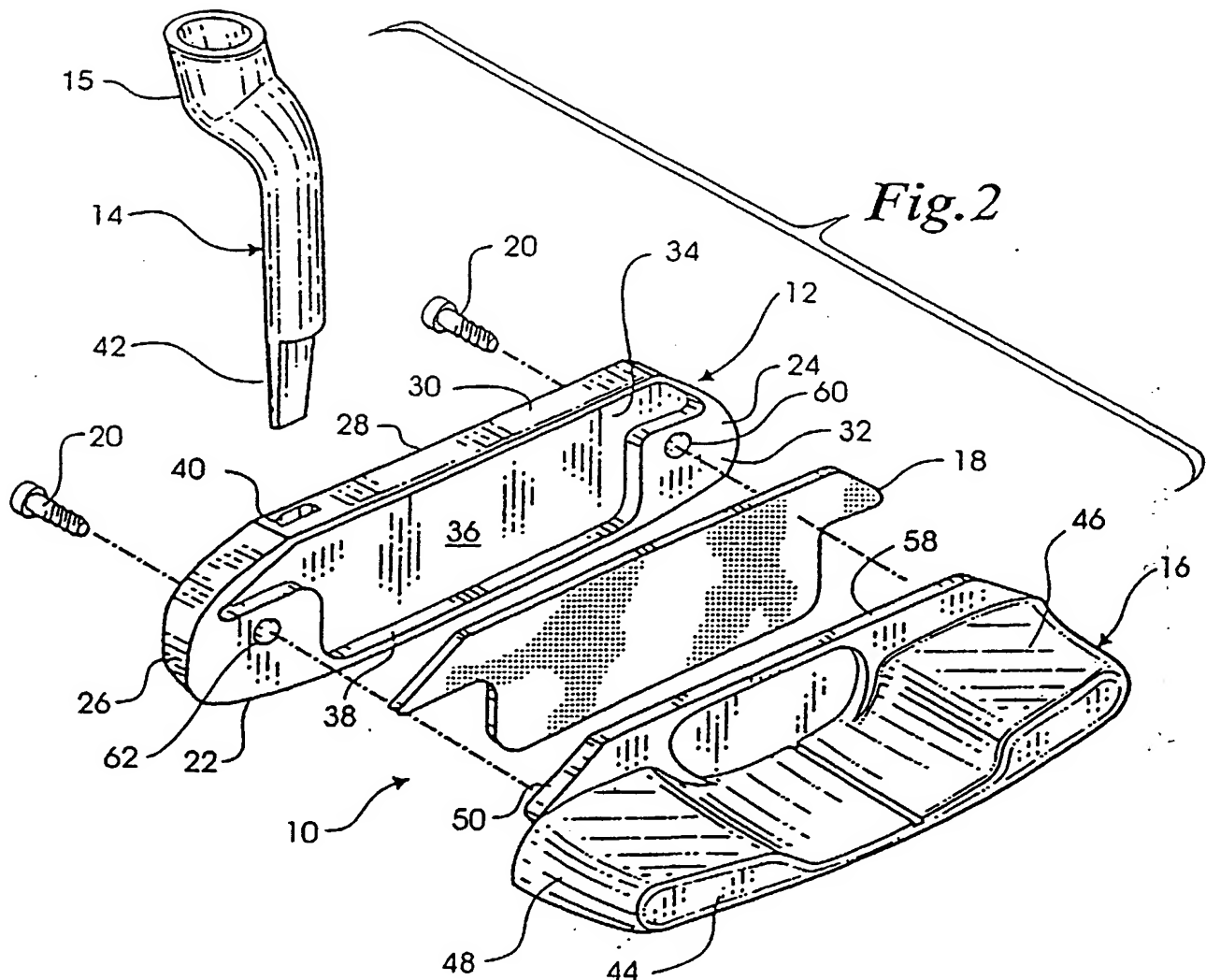
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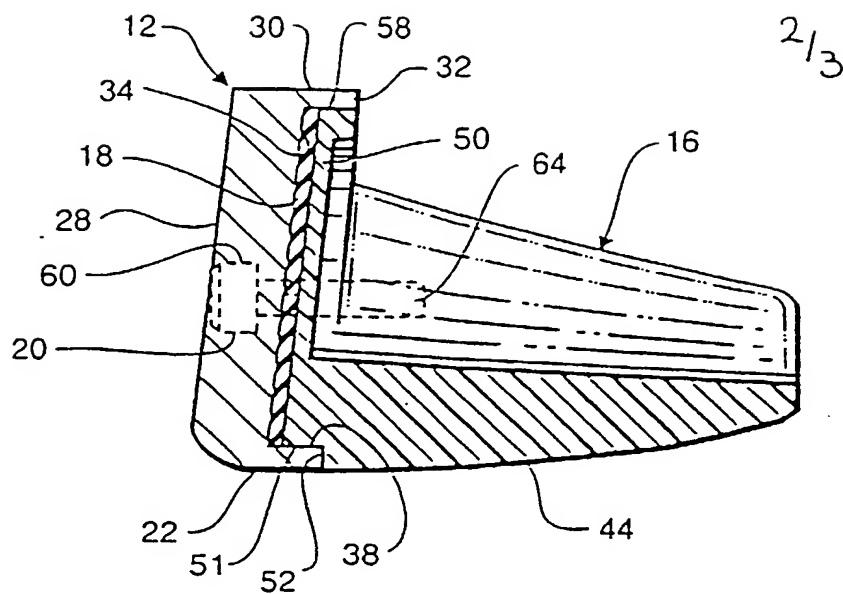
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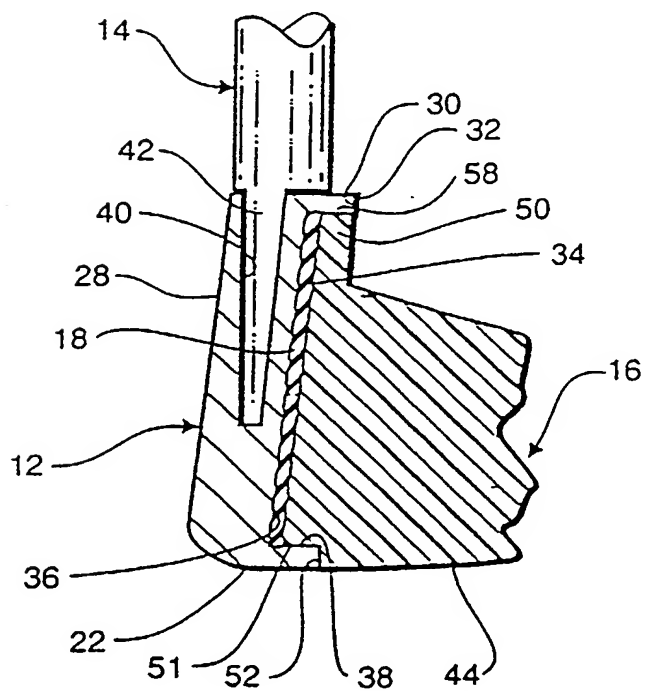
*Fig. 1*



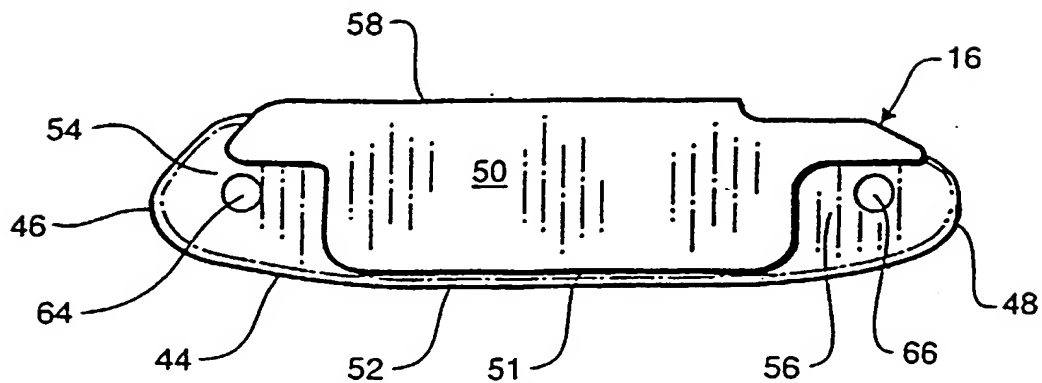
*Fig. 2*



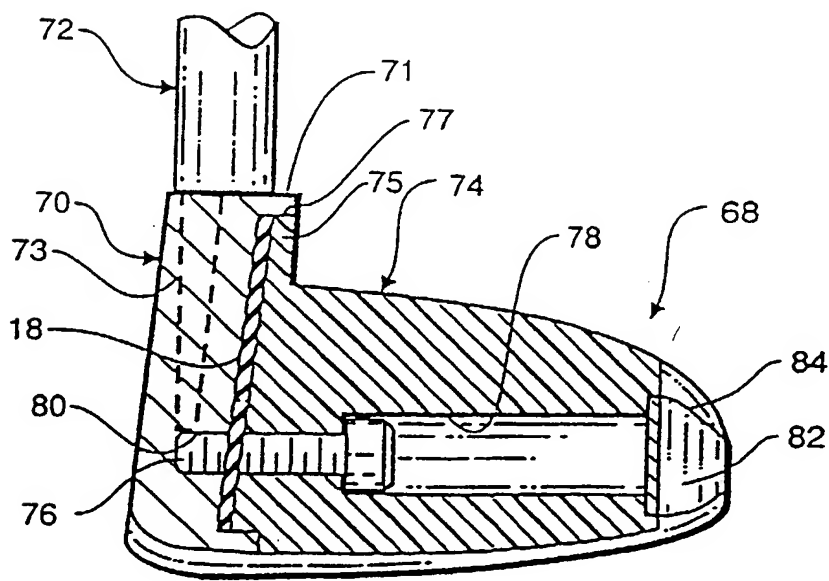
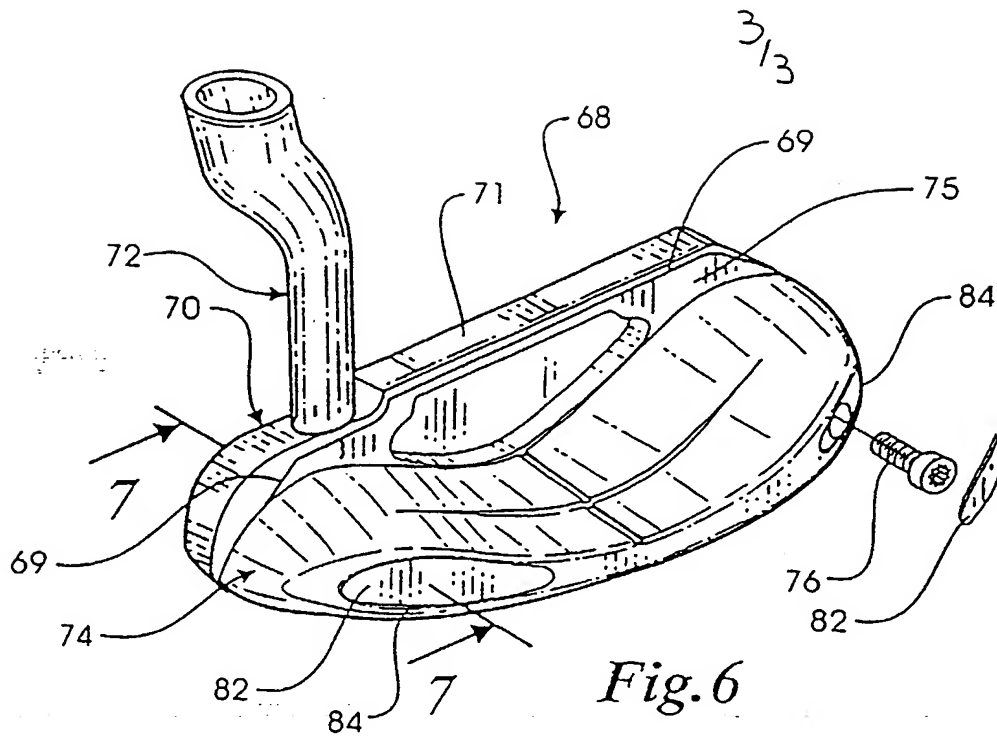
*Fig. 3*



*Fig. 4*



*Fig. 5*



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## CUSTOMIZABLE GOLF PUTTER HEAD

This invention relates generally to golf putters and, in particular, to a golf putter head which may be customized to meet an individual golfer's preferences.

Since putting is such a highly individualistic aspect of golf, many configurations of putter heads are available to satisfy the preferences of the individual golfer. Putter head configurations vary significantly and may have some effect on a golfer's confidence and ability when putting. Prior U.S. Patent Nos. 5,407,196 to Busnardo; 5,437,447 to Rigutto; 5,230,509 to Chavez; and 5,275,413 to Sprague disclose two-piece putters which may be customized. The Busnardo and Rigutto patents both disclose specifically configured putter heads with interchangeable face plates for changing the loft angle of the ball striking face. The Chavez and Sprague patents both disclose putter heads with interchangeable rear weights for altering the weight and feel of the putter head. All of these prior putter heads are disclosed as having two pieces formed with substantially planar mating surfaces which provides the assembled putter head with a noticeable parting line between the two pieces. Some golfers find such parting lines objectionable and even distracting when putting.

In accordance with the present invention, a customizable putter head is disclosed. The putter head includes a face member and a back body which may be selected from pluralities of differently configured face members and back bodies. The face member includes a top ledge which extends between toe and heel ends of the face member, and a hosel extends upwardly from the top ledge for receiving one end of a golf shaft. In the preferred embodiment, the face member is formed without the hosel but with a socket formed therein so as to open upwardly onto the top ledge. A plurality of differently configured hosels are provided with each hosel having a depending extension which fits into the socket formed in the face member. When a desired hosel has been selected, a sintering process may be used to secure the hosel and the face member together. The face member has a front surface arranged for striking a golf ball and a rear surface. The top ledge is disposed between the front and rear surfaces. A cavity formed in the rear surface has a recessed bottom surface with the cavity being circumscribed by a rim surface.

The back body has a mating section with a shape which matches the shape of the cavity in the rear surface of the face member so that when the putter is assembled, the mating section of the back body will be disposed within the face member cavity. When the putter head is assembled, an upper edge of the mating section of the back body will be disposed underneath the top ledge of the face member. Therefore, a parting line between the face member and the back body will be concealed by the top ledge of the face member and thus will not be visible from directly above the putter head. The face member and the back body are attached to each other by a pair of screws, and a membrane may be placed in the cavity in the rear surface of the face member between the recessed bottom surface thereof and the mating section of the back body. The membrane is



preferably formed of an elastomeric material to dampen vibrations and alter the sound made when a golf ball is struck on the front surface of the face member.

### DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of an assembled putter head according to one embodiment of the present invention;

Fig. 2 is an exploded view of the putter head shown in Fig. 1;

Fig. 3 is an enlarged sectional view taken along the line 3-3 in Fig. 1;

Fig. 4 is an enlarged fragmentary sectional view taken along the line 4-4 in Fig. 1;

Fig. 5 is an elevational view of one component of the putter head shown in Figs. 1 and 2;

Fig. 6 is a partially exploded perspective view of a putter head according to another embodiment of the present invention; and

Fig. 7 is an enlarged sectional view taken along the line 7-7 in Fig. 6.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 1, an assembled golf putter head according to one embodiment of the present invention is indicated generally by the reference numeral 10. The putter head 10, as shown in the exploded view of Fig. 2, is formed of multiple components including a face member 12, a hosel 14, a back body 16 and a membrane 18. These components are held together by a pair of screws 20. The hosel 14 has a boss 15 for receiving one end of a golf shaft (not shown).

The face member 12 has a sole 22, a toe end 24, a heel end 26, a front surface 28 arranged for striking a golf ball (not shown), a top ledge 30 and a rear surface 32. The top ledge 30 is

disposed between the front and rear surfaces 28, 32. A cavity 34 is formed in the rear surface 32 with the cavity 34 having a recessed bottom surface 36 circumscribed by a rim surface 38. An upwardly opening socket 40 is formed in the top ledge 30 of the face member 12 for receiving a depending extension 42 of the hosel 14 as shown in Fig. 4. The face member 12 and the hosel 14 are preferably formed of suitable metal such as stainless steel. When both the face member 12 and the hosel 14 are formed of metal, a sintering process may be used to secure the hosel 14 to the face member 12. Alternatively, the hosel 14 may be formed of a suitable synthetic resin and secured to the face member 12 by using an adhesive such as epoxy. It will be apparent that by fabricating the face member 12 and the hosel 14 as separate components and securing them together in the manner indicated, different face members having desired configurations may be provided. The face member 12 is selected from a plurality of differently configured face members (not shown), and the hosel 14 is selected from a plurality of differently configured hosels (not shown). Alternatively, the face member 12 and the hosel 14 may be integrally formed.

The back body 16 has a sole 44, a toe end 46, a heel end 48 and a mating section 50 which is shown best in Figs. 2 and 5. The mating section 50 of the back body 16 is separated along its lower edge 51 from the sole 44 by a lip 52 which extends between front end portions 54 and 56 of the back body 16. The mating section 50 has an elongated upper edge 58 opposite the lower edge 51. It is contemplated that a plurality of differently configured back bodies (not shown) will be fabricated to provide a selection of back bodies having various weights and shapes. The back bodies may be formed of any suitable material such as metal or synthetic resin. The mating section 50 of the back body 16 has a shape that matches the shape of the recessed bottom surface

36 of the face member cavity 34 to provide a proper fit when the face member 12 and the back body 16 are secured together as described below.

As seen in Fig. 2, the face member 12 is provided with a spaced apart pair of counterbores 60 and 62 formed proximate the toe and heel ends 24 and 26, respectively, with the counterbores 60, 62 extending from the front surface 28 through to the back surface 32. The back body 16 is formed with a spaced apart pair of threaded bores 64 and 66 (Fig. 5) adjacent the toe and heel ends 46 and 48, respectively, which are disposed to axially align with the counterbores 60, 62 in the face member 12 when the back body 16 is secured to the face member 12 by the screws 20. The mating section 50 of the back body 16 is disposed within the cavity 34 of the face member 12 with the upper edge 58 of the mating section 50 lying beneath the top ledge 30 of the face member 12 as shown in Figs. 3 and 4. Therefore, a parting line 11 (Fig. 1) between the face member 12 and the back body 16 is concealed by the top ledge 30 and is not visible from directly above the putter head 10 such as when a golfer is making a putting stroke with a putter incorporating the putter head 10.

Referring to Fig. 2, it will be understood that the membrane 18 is formed with a shape that matches the shape of the cavity 34 in the face member 12 and the shape of the mating section 50 of the back body 16. As seen in Figs. 3 and 4, when the putter head 10 is assembled, the membrane 18 is interposed between the recessed bottom surface 36 of the cavity 34 of the face member 12 and the mating section 50 of the back body 16. The membrane 18 is preferably made of an elastomeric material such as foam tape which has adhesive on both sides and which may be die cut into the desired shape. Although the putter head 10 may be assembled without utilizing

the membrane 18, it is preferred that the membrane 18 be used because it will absorb vibration and alter the sound made when a golf ball is struck on the front surface 28 of the face member 12.

A golf putter head according to another embodiment of the present invention is identified in Figs. 6 and 7 by the reference numeral 68. The putter head 68 includes a face member 70 and a hosel 72 joined together in the manner described with respect to the face member 12 and the hosel 14 of the putter head 10. The face member 70 has a top ledge 71 that is similar to the top ledge 30 of the face member 12, and the hosel 72 includes a depending extension 73 that is similar to the depending extension 42 of the hosel 14. The putter head 68 also includes a back body 74 with a mating section 75 that is similar to the mating section 50 of the back body 16. A pair of screws 76 (only one of which is shown) are used to secure the face member 70 and the back body 74 together. The screws 76 pass through holes 78 (only one of which is shown) formed in the back body 74 into threaded bores 80 (only one of which is shown) provided in the face member 70. The holes 78 are disposed generally normally with respect to the mating section 75. Plates 82 may be inserted into recesses 84 formed in the back body 74 to conceal the screws 76. The plates 82 may be made of metal or plastic and secured in place with a suitable adhesive. When the putter head 68 is assembled, the mating section 75 of the back body 74 has an upper edge 77 that lies beneath the top ledge 71 of the face member 68 so that a parting line 69 between the face member 70 and the back body 74 is concealed by the top ledge 71.

What is claimed is:

1. A golf putter head comprising:

a face member having a heel end, a toe end, a front surface arranged for striking a golf ball, a rear surface and a top ledge extending between said heel and toe ends and disposed between said front and rear surfaces, said face member including a cavity formed in the rear surface with the cavity having a recessed bottom surface circumscribed by a rim surface; and

a back body mounted on the rear surface of said face member, said back body having a mating section which is disposed within the cavity formed in the rear surface of said face member, the mating section of said back body having an upper edge which is disposed underneath the top ledge of said face member so that a parting line between said face member and said back body is concealed by the top ledge of said face member.

2. The golf putter head of claim 1, wherein said face member further comprises a hosel extending upwardly from the top ledge thereof for receiving one end of a golf shaft.

3. The golf putter head of claim 2, further comprising:

said face member having a socket formed therein with the socket being disposed so as to open upwardly onto the top ledge thereof; and

said hosel having a depending extension, the depending extension of said hosel being received in the socket provided in said face member.

4. The golf putter head of claim 3, wherein the depending extension of said hosel being secured in the socket in said face member.

5. The golf putter head of claim 1, further comprising a membrane disposed in the cavity formed in said face member and positioned between said face member and said back body.

6. The golf putter head of claim 5, further comprising said membrane being interposed between the recessed bottom surface of the cavity of said face member and the mating section of said back body.

7. The golf putter head of claim 1, wherein the mating section of said back body comprises a shape that substantially matches a shape of the cavity formed in the rear surface of said face member.

8. The golf putter head assembly of claim 1, further comprising:  
said face member having a spaced apart pair of counterbores formed therein so as to extend between the front and the rear surfaces thereof;  
said back body having a spaced apart pair of threaded bores formed therein with each of the threaded bores being disposed to axially align with one of the pair of counterbores formed through said face member; and

a pair of screws with each of the screws passing through one of the pair of counterbores formed through said face member into threaded engagement with one of the threaded bores formed in said back body.

9. The golf putter head of claim 1, further comprising:

said back body having a spaced apart pair of holes formed therethrough and disposed generally normally with respect to the mating section thereof;

a spaced apart pair of threaded bores formed in said face member with each of the threaded bores being disposed to axially align with one of the pair of holes formed through said back body; and

a pair of screws with each of the screws passing through one of the pair of holes formed through said back body into threaded engagement with one of the threaded bores formed in said face member.

10. The golf putter head of claim 9, further comprising;

each of said pair of screws having a head which is recessed in said back body; and

a pair of plates attached to said back body with each of said pair of plates being disposed to conceal one of the screws of said pair of screws.

11. The golf putter head of claim 1, wherein said face member is selected from a plurality of differently configured face members.

12. The golf putter head of claim 1, wherein said back body is selected from a plurality of differently configured back bodies.

13. The golf putter head of claim 2, wherein said hosel is selected from a plurality of differently configured hosels.

14. The golf putter head of claim 1, further comprising:  
said back body having a heel end and a toe end; and  
said upper edge of said mating section being disposed between said heel and toe ends of said back body.

15. The golf putter head of claim 14, further comprising:  
said back body having a sole; and  
said mating section having a lower edge opposite said upper edge, said lower edge being separated from said sole by a lip.





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Application No: GB 0124313.8  
 Claims searched: 1-15

Examiner: Mark Sexton  
 Date of search: 21 February 2002

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.T): A6D

Int Cl (Ed.7): A63B 53/00,04,06

Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2317572 A	(WELLER) - see whole document, note particularly figures 1 & 2 and rim D	1,7 & 11
X : Y	US 5230509	(CHAVEZ) - see whole document, note particularly figures 1 & 2	X: 1-4, 7,12, 14 & 15 Y:5,6 & 9
X : Y	US 4121832	(EBBING) - see whole document, note particularly figures 2 & 4, back 20 and front sections 14 & 18	X: 1-4 & 7-11 Y: 5,6 & 12
X : Y	US 3749408	(MILLS) - see whole document, note particularly figure 3, tape 39	X: 1-7 & 12 Y: 5,6 & 9
X : Y	US 3220733	(SALEEBY) - see whole document, note particularly figures 1 & 2	X: 1-4, 7,12, 14 & 15 Y: 5,6 & 9
Y	US 5275413	(SPRAGUE) - see whole document, note particularly figures 1 & 2	9 & 12

X Document indicating lack of novelty or inventive step  
 Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
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A Document indicating technological background and/or state of the art.  
 P Document published on or after the declared priority date but before the filing date of this invention.  
 E Patent document published on or after, but with priority date earlier than, the filing date of this application.



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Application No: GB 0124313.8  
Claims searched: 1-15

12 Examiner: Mark Sexton  
Date of search: 21 February 2002

Category	Identity of document and relevant passage	Relevant to claims
Y	GB 2195546 A (MARUMAN) - see whole document, note particularly figure 1, membrane 13	5 & 6

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&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.